



692 ACG TAC CCA CAG CAC TAT TAT GGA GAC TTG GAG TAT GTC CTC ATC CCT CAT GGT ATC ATT GTG  
 Thr Tyr Pro Gln His Tyr Tyr Tyr Gly Asp Leu Glu Tyr Val Leu Ile Pro His Gly Ile Ile Val  
  
 755 GAC AGA ATT GAG CGG CTG CCC AAG GAT ATT ATG AAA GAC ATA GGA TAT AGT GAC ATC ATG GTC  
 Asp Arg Ile Glu Arg Leu Ala Lys Asp Ile MET Lys Asp Ile Gly Tyr Ser Asp Ile MET Val  
  
 818 CTG TGT GTG CTT AAA GGG GGG TAC AAA TTC TGT GCT GAT CTC GTA GAA CAC CTT AAG AAC ATC  
 Leu Cys Val Leu Lys Gly Gly Tyr Lys Phe Cys Ala Asp Leu Val Glu His Leu Lys Asn Ile  
  
 881 AGC CGA AAT TCA GAT CGG TTT GTC TCA ATG AAG GTT GAT TTC ATC AGA CTA AAA AGT TAC AGG  
 Ser Arg Asn Ser Asp Arg Phe Val Ser MET Lys Val Asp Phe Ile Arg Leu Lys Ser Tyr Arg  
  
 944 AAT GAC CAG TCC ATG GGT GAG ATG CAG ATA ATC GGA GGC GGT GAT CTT TCA ACG CTG GCT GGA  
 Asn Asp Gln Ser MET Gly Glu MET Gln Ile Ile Gly Gly Asp Leu Ser Thr Leu Ala Gly  
  
 1007 AAG AAT TTT CTC ATT GTT GAG GAT GTT GTC GGA ACT GGG AGG ACC ATG AAA GCA CTA CTC AGC  
 Lys Asn Phe Leu Ile Val Glu Asp Val Val Gly Thr Gly Arg Thr MET Lys Ala Leu Leu Ser  
  
 1070 AAT ATA GAG AAA TAC AAG CCC AAC ATG ATT AAG GTA GCC AGT TTG TTG GTG AAG AGA ACA TCC  
 Asn Ile Glu Lys Tyr Lys Pro Asn MET Ile Lys Val Ala Ser Leu Leu Val Lys Arg Thr Ser  
  
 1133 AGA AGT GAC GGC TTT AGA CCT GAC TAT GCT GGA TTT GAG ATT CCA CAC TTA TTT GTG GTG GGA  
 Arg Ser Asp Gly Phe Arg Pro Asp Tyr Ala Gly Phe Glu Ile Pro His Leu Phe Val Val Gly

FIG. 1B

1196 TAT GCC TTA GAT TAC AAT GAA TAC TTC AGA GAT CTG AAT CAC ATA TGC GTC ATC AAT GAG CAC  
       Tyr Ala Leu Asp Tyr Asn Glu Tyr Phe Arg Asp Leu Asn His Ile Cys Val Ile Asn Glu His  
 1259 GGG TAA AGG AAA ATA TCG AGT CTT AAA GAC ATG AAT TCT CAC CAC TAA AGG CCC CAG ATA GGA  
       Gly STP  
 1322 TCA TTT TTA CGC CTG TCT TGG GGA GCC AGT TGC AAG TTG GGC CCC CCC GGA TCT TCA TCA GGA  
 1385 GG

FIG. 1C

1	MATRSPGVVISDDDEPGYDLDFCIPNHYAEDLERVFIPHGLIMDRTERLARDVMKE	56
	: . .   :    :   : : .    : : :	
1	MATRSPGVVIMDDWPGYDLNLFYTPQHYYGDLEYVLIPHGIIVDRIERLAKDIMKD	56
57	MGGHHIVALCVLKGGYKFFADLLDYIKALNRNSDRSIPMTVDFIRLKSVCNDQSTG	112
	:  . : .          : . .    : . .	
57	IGYSDIMVLCVLKGGYKFCADLVEHLKNISRNSDRFVSMKVDFIRLKSVCNDQSMG	112
113	DIKVIIGDDLSTLTGKNVLIVEDIIDTGKTMQTLLSLVRQYNPKMVKVASLLVKRT	168
	::: : : : . . .     : : : . .   : . . . : : :	
113	EMQIIGGGDLSTLAGKNFLIVEDVVGTRGTMKALLSNIKEYKPNMIKVASLLVKRT	168
169	PRSVGYKPDFVGFEIPDKFVVGALDYNEYFRDLNHVCVISETGKAKYKA	218
	.    : : . . . .      : : : . . .    ...	
169	SRSDGFRPDYAGFEIPHLFVVGALDYNEYFRDLNHICVINEHG*RKISS	218

FIG.2

M A T R S - P G V - - - - - V I S D D E P G Y D L D L F		Majority
	10                      20                      30	
1	M A T R S - P G V - - - - - V I M D D W P G Y D L N L F	HPRI2b.pap
1	M A T R S - P G V - - - - - V I S D D E P G Y D L D L F	HPRI2b.pap
1	M A T R S - P S V - - - - - V I S D D E P G Y D L D L F	HPRI2b.pap
1	M P I P N N P G A G E N A F D P P V F V K D D D G Y D L D S F	HPRI2b.pap
1	M E P A C K - - - - - - - - - - Y D - - - - -	HPRI2b.pap
C I P N H Y X E D L E K V L I P H G V I M D R I E R L A R D		Majority
	40                      50                      60	
23	T Y P Q H Y Y G D L E Y V L I P H G I I V D R I E R L A K D	HPRI2b.pap
23	C I P N H Y A E D L E R V F I P H G L I M D R T E R L A R D	HPRI2b.pap
23	C I P N H Y V E D L E K V F I P H G V I M D R T E R L A R D	HPRI2b.pap
31	M I P A H Y K K Y L T K V L V P N G V I K N R I E K L A Y D	HPRI2b.pap
10	A T S V L F T E A E L H T R M - R G V A Q R I A D D Y S N C	HPRI2b.pap
V M K E M G G H I V A L C V L K G G Y K F F A D L L D H L		Majority
	70                      80                      90	
53	I M K D I G Y S D I M V L C V L K G G Y K F C A D L V E H L	HPRI2b.pap
53	V M K E M G G H I V A L C V L K G G Y K F F A D L L D Y I	HPRI2b.pap
53	V M K E M G G H I V A L C V L K G G Y K F F A D L L D Y I	HPRI2b.pap
61	I K K V Y N N E E F H I L C L K G S R G F F T A L L K H L	HPRI2b.pap
39	N L K P L E - N P L V I V S V L K G S F V F T A D M V R I L	HPRI2b.pap

FIG.3A

	K	A	L	N	R	N	S	D	R	S	V	P	M	T	V	-	-	-	D	F	I	R	L	K	S	Y	C	N	D	Q	Majority
																100			110									120			
83	K	N	I	S	R	N	S	D	R	F	V	S	M	K	V	-	-	-	D	F	I	R	L	K	S	Y	R	N	D	Q	HPRT2b.pep
83	K	A	L	N	R	N	S	D	R	S	I	P	M	T	V	-	-	-	D	F	I	R	L	K	S	Y	C	N	D	Q	HPRTThu
83	K	A	L	N	R	N	S	D	R	S	I	P	M	T	V	-	-	-	D	F	I	R	L	K	S	Y	C	N	D	Q	HPRTc1
91	S	R	I	H	N	Y	S	A	V	E	M	S	K	P	L	F	G	E	H	Y	V	R	V	K	S	Y	C	N	D	Q	HPRTplas
68	G	D	F	G	-	-	-	-	-	-	V	P	T	R	V	-	-	-	E	F	L	R	A	S	S	Y	G	H	D	T	HPRTtrypan

	S	T	G	D	I	K	V	I	G	G	D	D	L	S	T	L	T	G	K	N	V	L	I	V	E	D	I	I	D	T	Majority
110	S	M	G	E	M	Q	I	I	G	G	G	D	L	S	T	L	A	G	K	N	F	L	I	V	E	D	V	V	G	T	HPRT2b.pep
110	S	T	G	D	I	K	V	I	G	G	D	D	L	S	T	L	T	G	K	N	V	L	I	V	E	D	I	I	D	T	HPRTThu
110	S	T	G	D	I	K	V	I	G	G	D	D	L	S	T	L	T	G	K	N	V	L	I	V	E	D	I	I	D	T	HPRTc1
121	S	T	G	T	L	E	I	V	S	-	E	D	L	S	C	L	K	G	K	H	V	L	I	V	E	D	I	I	D	T	HPRTplas
89	K	S	C	G	R	V	D	V	K	A	D	G	L	C	D	I	R	G	K	H	V	L	V	L	E	D	I	L	D	T	HPRTtrypan

	G	K	T	M	Q	T	L	L	S	L	V	K	K	Y	E	P	K	M	V	K	V	A	S	L	L	V	K	R	T	S	Majority
140	G	R	T	M	K	A	L	L	S	N	I	E	K	Y	K	P	N	M	I	K	V	A	S	L	L	V	K	R	T	S	HPRT2b.pep
140	G	K	T	M	Q	T	L	L	S	L	V	R	Q	Y	N	P	K	M	V	K	V	A	S	L	L	V	K	R	T	P	HPRTThu
140	G	K	T	M	Q	T	L	L	S	L	V	K	R	Y	N	P	K	M	V	K	V	A	S	L	L	V	K	R	T	S	HPRTc1
150	G	K	T	L	V	K	F	C	E	Y	L	K	K	F	E	I	K	T	V	A	I	A	C	L	F	I	K	R	T	P	HPRTplas
119	A	L	I	L	R	E	V	V	D	S	L	K	K	S	E	P	A	S	I	K	T	L	V	A	I	D	K	P	G	G	HPRTtrypan

FIG.3B

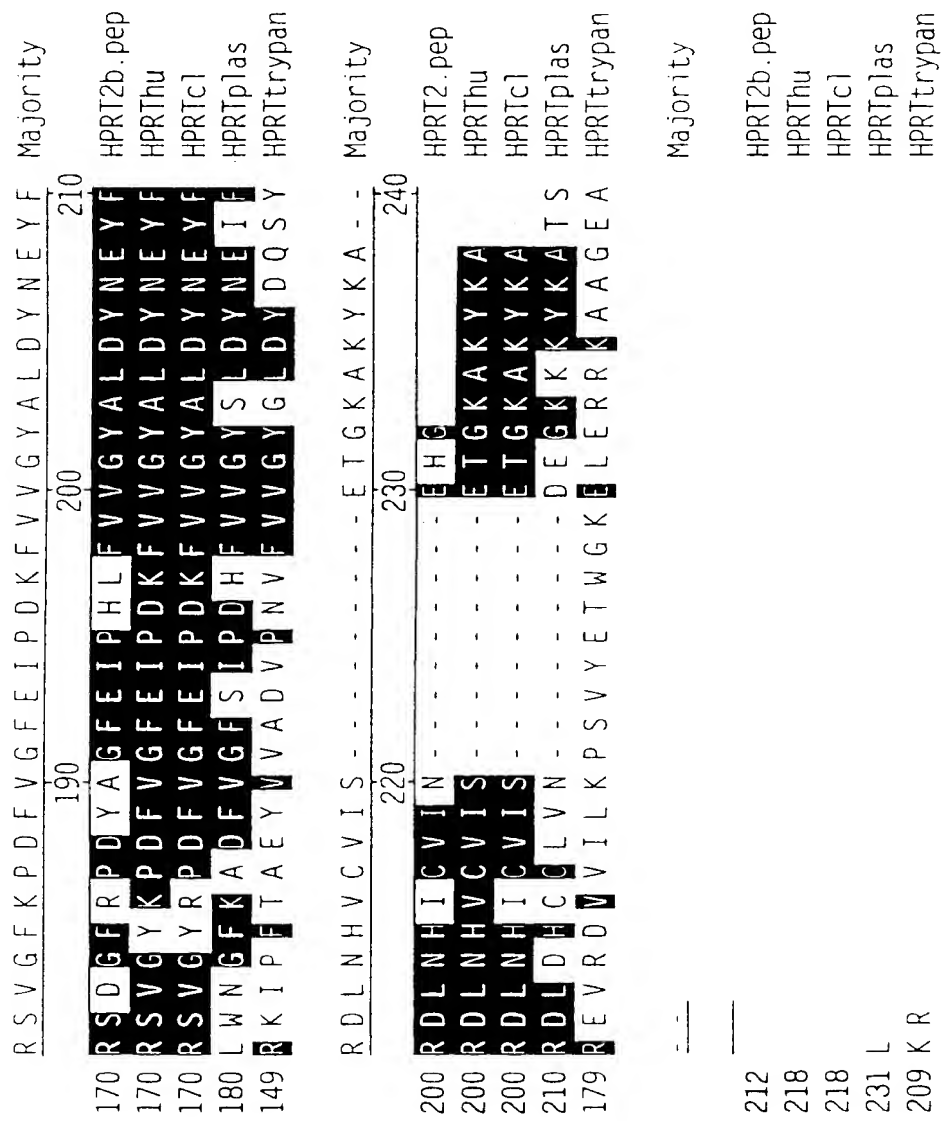


FIG.3C

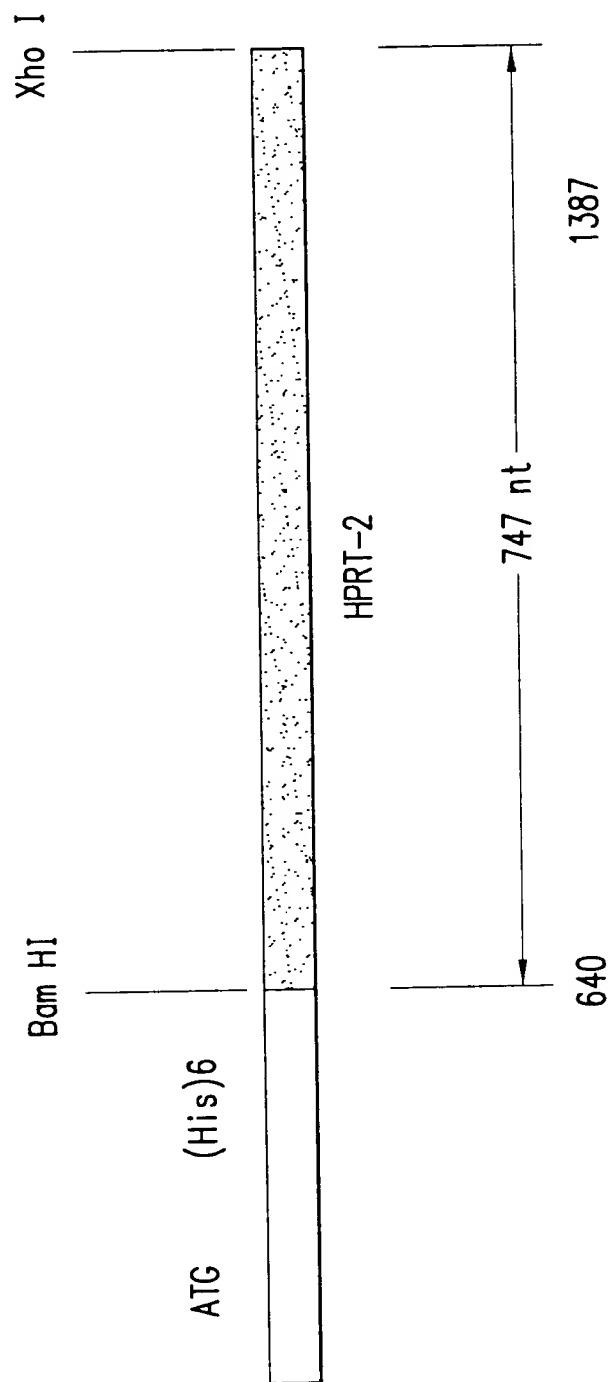


FIG.4



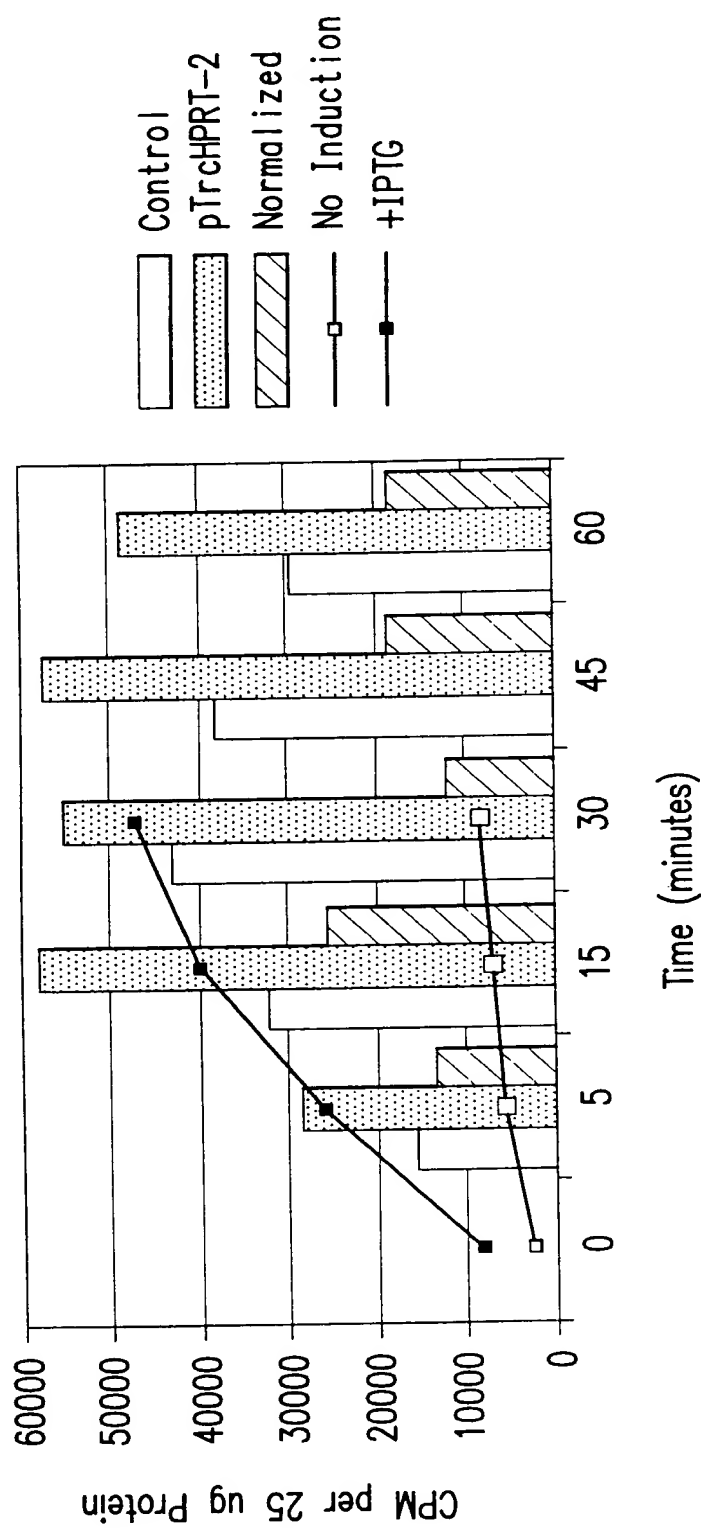


FIG.5